Periscope.

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ANATOMY AND PHYSIOLOGY.

222. **Cortical Localization in Animals.** British Medical Journal, November 20th, 1897.

Wesley Mills, of Montreal, after a very full series of experiments, reaches important conclusions as to differences of cerebral localization in the lower animals, conclusions that are suggestive not only as to the evolution of cortical representation of definite movements, but as to localization in the human brain. For instance, he finds no defined centre for the hind limbs of the rabbit, and in this connection remarks that the method of locomotion in rabbits is peculiar, and not comparable to that of the rat, guinea pig, etc.

He comes to the following general conclusions:

In the dog, cat, rabbit, cavy, rat and mouse electrical stimulation of the cerebral cortex over definite regions produces regularly certain movements. These animals are, however, not on the same physiological plane with regard to this subject. The dog and the cat are more closely related, and fall into a physiological group by themselves. The rabbit, the cavy, the rat and the mouse constitute another group. There are well defined differences for the cat and the dog. The same applies to the members of the other group. In the cat and the dog the motor areas are better defined than in the members of the other group.

In the case of all these animals it has been clearly demonstrated that all motor centres are not functional equivalents—some respond more readily and produce better defined results than others. They seem to be better organized. There appear to be all degrees of this functional variation down to zero. The rabbit is an especially good illustration of some phases of this principle.

The cortical localization mapped out by Ferrier for the dog, cat, rabbit, cavy and the rat is in the main confirmed by the present investigator, but considerable allowance must be made for individual differences, and it is important, as has been just pointed out, to recognize that all motor centres in the same animal are not functionally equivalent in the sense explained above.

The removal of motor centres in the animals made the subject of this investigation does not lead to complete loss of the corresponding movements, and in some cases the difference between the intact animal and that operated on is, after a few days, relatively slight; so that it is plain that motor centres in such animals are not strictly comparable with motor centres in the primates. In other words, here again the question of degree of localization and functional organization (among others) must be considered.

The bird is on a wholly different plane. None of the ordinarily recognized movements on stimulation of the cerebral cortex can be excited in the bird. On the other hand, certain eye movements, both intrinsic and extrinsic, follow as a result of stimulation of the cortex.

PATRICK.

223. RECHERCHES CLINIQUES SUR L'ALCALESCENCE DU SANG ET LES INJECTIONS DE SOLUTIONS ALKALINES CHEZ LES EPILEPTIQUES (Clinical Researches on the Alkalinity of the Blood, etc.). R. Charon et E. Briche (Arch. de Neurologie, 4, 1897, p. 465).

The author comes to the following conclusions as the results of a series of experimental researches:

1. In epileptics in the course of each quotidienne revolution the degree of alkalinity of the blood is modified regularly with minimum and maximum amounts corresponding with the digestive operations.

2. The convulsive attacks present nearly constant variations, isochronous and in inverse relationship to the variations of the alkalinity of the blood.

3. Repeated injections of alkaline solutions do not modify in any permanent measure the grade of alkalinity of the blood. It produces but a temporary rise in this alkalinity, which disappears within an hour, and during which no convulsive attacks are present.

4. Injections would seem to diminish isolated attacks and to augment those which appear in a series. The total number of attacks is not diminished.

5. The injections seem to augment the post-epileptic psychical manifestations, and in certain cases provoke delirious or maniacal attacks.

JELLIFFE.

224. RECHERCHES EXPERIMENTALES SUR LA THYROIDINE (Experimental Investigations on Thyroidine). Barteit (Sitzungsb. d. Naturf. Ges. z. Inojew, 1896, p. 123).

The author, experimenting on himself and on animals with preparations of thyroidine, in powder form and alcoholic solution, reports:

I. Personal experiments. The ingestion of 0.006 gr. of pure thyroidine gives rise to a considerable diuresis, due in all probability to increased combustion of the carbohydrates, fatty substances, and albuminoids. There were no abnormal manifestations, nor increase in the pulse rate.

II. Experiments on animals. Even in large doses there was no evidence of toxic symptoms, and the diuretic action was but slight.

III. Investigations on isolated organs with artificial circulation. Thyroidine has no influence on the blood-pressure in cats, nor on the cardiac movements in frogs. In 0.006 gr. doses there was no action on the renal vessels, and consequently no increase of urine secretion in oxen.

Conclusions. The author considers thyroidine as the best tolerated, the least noxious, and the most constant preparation of the thyroid gland. It is not a real diuretic, its action upon the secretion of urine being indirect. It may be prescribed with benefit in obesity, in which metabolism is sluggish, and in all cases in which the function of the thyroid gland is impaired.

MACALESTER.